

1. A method for quantitatively determining hydrogen sulfide or sulfide ions, which comprises adding to a sample containing hydrogen sulfide or sulfide ions, metal ions or a compound which liberates said metal ions and a metal indicator which reacts with the metal ions and resultingly undergoes color development, wherein the color development is accelerated or inhibited by the hydrogen sulfide or sulfide ions; and measuring the degree of color development of the metal indicator.

3. The method according to Claim 1, wherein the metal indicator is a pyridylazo compound or a nitrosoaminophenol compound.

4. A method for quantitatively determining a specific substance, which comprises adding to a sample containing a specific substance, a component which acts on the specific substance so that the specific substance forms hydrogen sulfide or sulfide ions, metal ions or a compound which liberates said metal ions, and a metal indicator which reacts with the metal ions and resultingly undergoes color development, wherein the color development is accelerated or inhibited by the hydrogen sulfide or sulfide ions; and measuring the degree of color development of the metal indicator.

5. The method according to Claim 4, wherein the metal ions are zinc ions or iron ions.

6. The method according to Claim 4, wherein the metal indicator is a pyridylazo compound or a nitrosoaminophenol compound.

7. The method according to Claim 4, wherein the specific substance is homocysteine, and the component which acts on the specific substance so that the specific substance forms hydrogen sulfide or sulfide ions, is an enzyme (E1) which acts on the homocysteine so that the homocysteine forms hydrogen sulfide

8. The method according to Claim 7, wherein the enzyme (E1) is a substance which catalyzes a substitution reaction to the homocysteine in the presence of a thiol compound.

9. The method according to Claim 8, wherein the enzyme (E1) is O-acetylhomoserine-lyase.

10. The method according to Claim 8, wherein the thiol compound is at least one selected from the group consisting of methane thiol, 2-mercaptoethanol, dithiothreitol, thioglycerol and cysteamine.

11. The method according to Claim 4, wherein the specific substance is cysteine, and the component which acts on the specific substance so that the specific substance forms hydrogen sulfide or sulfide ions, is an enzyme (E2) which acts on the cysteine so that the cysteine forms hydrogen sulfide.

2025-09-04 15:25:04

13. The method according to Claim 12, wherein the enzyme (E2) is *O*-acetylserine-lyase.

14. The method according to Claim 12, wherein the thiol compound is at least one selected from the group consisting of methane thiol, 2-mercaptoethanol, dithiothreitol, thioglycerol and cysteamine.